NetBoss Technologies
Integrated Service Assurance

Even one occurrence of service interruption can have dire consequences to the reputation and revenue of a service provider. NetBoss Technologies delivers Service Assurance for uninterrupted network performance. It does this by providing superior situational awareness capability, serving as the cornerstone of your plan to preempt, respond to and resolve network issues.

Choose NetBoss Technologies Integrated Service Assurance to lower operational costs while improving Quality of Service (QoS). Manage everything from legacy equipment to next-generation, IP-based network infrastructure and services. NetBoss Technologies delivers a scalable future-proof solution for convergent service providers.

The move to IP-based Next Generation Networks (NGN) services in the communications industry is accelerating. To support this transformation, the industry’s network management paradigm has shifted from traditional infrastructure management to Service Assurance – the management of next-generation, multi-vendor, multi-protocol converged infrastructure and the revenue-generating component of network services and their customers.

While network element and domain monitoring remain critically important, today’s QoS commitments require a clear, real-time view of traffic and performance to ensure end-to-end services are delivered to the customer – at the QoS promised in the Service Level Agreement (SLA). Service Assurance combines fault and performance management with probes, workforce administration and service management to enable operators to manage service quality and proactively correct problems before they significantly affect the customer.

Our combination of superior software products, best-in-class solution partners and rock-solid project management and professional services ensures your investment is protected and flexible.

Key Features
- Convergent service management
- Comprehensive element and technology support
- Flexible, scalable, proven solution
- Low life-cycle cost
- Solid project management and integration
- Best-in-class partners
- Integrated turnkey solution, delivered and installed

Managing Critical Path of Service
Over the last decade, network operator requirements have changed dramatically. It is not enough today to simply monitor and manage the network. Enhanced services such as broadband data, Voice over Internet Protocol (VoIP), video and on-demand services require network engineers to plan, predict and proactively manage services.

So the fundamental objective of network management – to predict, prevent and repair service-affecting conditions—is more critical than ever or throughput information at scheduled intervals.
These fault and performance functions are still required—and will be required in the future. But correlating provided data to meaningful decision-support intelligence is the new goal. This correlation capability sets NetBoss’ Integrated Service Assurance apart from other service assurance solutions. By adding network probes, service inventory, topology correlation and real-time performance visibility, we can plan, manage and repair end-to-end services effectively.

To effectively manage complex NGNs this way, you must first consider how management of the converged NGN differs from that of legacy networks. In the NGN—from the physical layer all the way to the application layer—network operations must be able to view the health and status of all layers and infrastructure involved in the end-to-end service offering:

- Service quality—key performance indicators/key quality indicators (KQIs/KPIs)
- Service Impact Analysis/Service Level Agreement (SIA/SLA)
- Infrastructure health and status
- Network and applications performance and probes
- Inventory
- Root Cause Analysis
- Usage

In addition, you must add management of customer policy contracts or SLAs. In doing so, the economic impact and moment-to-moment accountability of network operations and engineering increases dramatically.

Addressing Service Assurance from this total, layered perspective, as NetBoss Technologies does, is the only way to provide true service quality management (SQM). With more than 200 customers worldwide, NetBoss Technologies has broad, time-tested experience and technology required to provide a total integrated service assurance OSS (Operations Support System) solution for service-oriented NGNs.

In addition to our core NetBoss XT® architecture and application-specific modules, we work with best-in-class technology and solution vendors to deliver an industry-leading, optimized integrated Service Assurance OSS solution that is tailored to meet your specific needs.

**Strong Values, Strong Economics Flexible, Scalable, Proven Solution**

NetBoss Technologies’ Integrated Service Assurance Solution is a proven solution based on NetBoss XT software and a suite of network management tools used by leading telecom service providers. These providers are equipped with technologies to better serve their own customers through comprehensive network management, SIA and automated SLA capabilities, as well as the experience and discipline of NetBoss Technologies in serving as a systems integrator and providing operations center management services.

Whether it’s managing fixed or mobile access, transport, core switching, service delivery and service management systems, NetBoss XT does it all from a single system. NetBoss Technologies has the products and experience you need to manage emerging technologies and services, such as VoIP, MPLS, 3G Mobile, WiMAX, Metro Ethernet or Layer2/Layer3 VPN. With NetBoss XT, you don’t have to worry about the next wave of technology – you’re ready.

**Future-Proof, Low Life-Cycle Cost**

If you are a service provider, you appreciate the challenge of planning, implementing, managing and maintaining a reliable and profitable network. You want today’s investment to demonstrate a significant return while providing for a low life-cycle cost.
NetBoss Technologies Integrated Service Assurance solutions are designed to provide the lowest cost of ownership over the life of a system. From legacy to next-generation, our customers can feel confident their service assurance investment will support infrastructure and services today and tomorrow. NetBoss Technologies is an active member and participant of key industry standards organizations, ensuring ease of integration and interoperability with other network elements and management systems.

NetBoss Technologies Integrated Service Assurance solutions support network scaling from just a few network elements to much larger networks supporting tens of thousands of network elements. NetBoss XT offers flexible, scalable, cost-effective management solutions tailored to customer needs. Our solutions are packaged into building blocks so they scale optimally, flexibly and modularly. They can grow as your network grows.

Do you need new interfaces for new equipment? NetBoss XADE™ is an optional template-based GUI agent development tool to build management interfaces quickly and easily. Any agent or interface you build is yours to begin using without additional licensing fees, so your long-term operations and maintenance costs are reduced, and return on investment is dramatically improved.

Comprehensive Integrated Service Assurance Portfolio
- Service Management
  - Infrastructure health and status monitoring
  - Network and application performance management (KPI)
  - Customer experience and service level management (KQI) - Executive Dashboard
  - Trouble Ticketing and Reporting - Inventory Management - Policy Management
  - Event correlation and analysis
- Turnkey project management and services
- Operations consulting and re-engineering services
- Interface development toolkit
- Global customer service and support
- NOC Managed Services

Professional Services: Not Just a Solution
At NetBoss Technologies, we support our technology solutions with world-class expertise and years of experience in:
- Planning, deploying and managing networks just like yours
- Transforming network complexity and networks in transition into simplified, more easily manageable revenue-generating resources
- Tailoring solutions to your specific environment

The NetBoss approach is not just a solution: it is a turnkey approach to telecommunications service management, encompassing the solution, consulting, outsourcing services and support. Our approach is very different from vendors whose goal is merely to sell a product to you. Our team becomes part of your team, focusing on your concerns and your success.

With NetBoss Technologies as the project lead, you are ensured a single point of contact, a single point of responsibility and a tightly integrated approach for value and performance.

NetBoss Technologies Professional Services installs and integrates Service Assurance solutions, ensuring top knowledge and quality is built in for you. We feel strongly about ownership and accountability. We design, scope, implement, integrate and support our own solutions.

www.netboss-technologies.com
Project Management and Integration

Based on work with governments worldwide, NetBoss Technologies has built a solid track record in project management and systems integration. This enables us to fulfill demands for critical technology and services even in this exacting sector.

Our project managers have gone through rigorous and comprehensive formal project leadership training. This ensures a strong management approach with sound fiscal performance. NetBoss’s track record in on-time delivery and performance is well regarded in the industry.

Finally, our best-in-class partners provide the key technologies and competence needed to complete and enhance our Service Assurance portfolio and customized solutions. Our partners add proven value and ensure our customers are investing in the best possible solutions.

NetBoss XT: State-of-the-Art, Web-based Core Software

Core to NetBoss’ Service Assurance solution, NetBoss XT is based on open standards developed by TM Forum and Distributed Management Task Force. NetBoss XT allows you to model your network, monitor its network elements in real-time, establish system connectivity across a distributed environment and perform account management and administrative tasks.

It uses state-of-the-art, object-oriented, Web-based technology to provide uniformity of look and feel across all applications.

These applications are scalable, cross-platform and support a wide range of network topologies, as well as distributed network architectures. NetBoss interfaces are based on open standards management interface protocols including SNMP, CORBA, XML and TL1. The published APIs also facilitate easy integration with third-party applications, elements and element managers.

Reporting

The Reporting component of the NetBoss Technologies Service Assurance Solution features a turnkey reporting structure that communicates with multiple OSSs and accommodates distributed servers. The reports are designed by an administrator and published to the Web. Also, Web reports are provided on a scheduled basis and include user and group security, as well as personalized reports.

It easily integrates with our other Integrated Service Assurance solution suite of applications to provide context-sensitive, user-defined reports based on navigation and selection from menus. Also, there are Oracle database view options, stored procedures and a Web server for browser-based reports.

Trouble Ticketing

The Trouble Ticketing component of our Service Assurance Solution provides support for resource and service impact resolution. The system supports both automated and manual creation and update of trouble tickets, with an industry standard OSS/J interface to the Fault Management component:

• Automated – when an event occurs within the network that matches certain customer-defined criteria, the system automatically opens a ticket
• Manual – an operator can open a ticket by simply clicking the event. All event parameters, such as resource, sub-resource, severity, message and user-defined custom data, are automatically passed to the system.
Fault Management with Topology-based Correlation

The Fault Management (FM) component of the Service Assurance Solution has a robust alarm, resource and topology-based correlation engine that is optimized for each functional area. This approach is superior to traditional rules-based correlation engines in that the state propagation mechanisms and connectivity information already exist inside the system in an automatically built and maintained topology model that accurately reflects the structure of the real network.

The FM component collects fault and status information from the elements and element managers – continuously collecting, processing, presenting and reporting on the network fault status and automatically establishing dependencies and impact for any event. The FM component performs Service Management by correlating network events to services impacted across multi-vendor network elements and element managers.

See Network Management from your Customer’s Point-of-View

Performance Management

The Performance Management component of Integrated Service Assurance simulates network traffic. Intelligent probes collect and analyze performance data from networked resources – processing, correlating and presenting defined key-performance and quality indicators and Quality of Experience metrics and SLA status.

The performance management engine collects and processes real-time and historical statistics and measures KPIs and KQIs for end-to-end performance and quality of IP services. The performance management component enables developing meaningful and customized SLAs for network operators, business units, partners or customers. A separate, Web-based interface permits subscribers to monitor, create and view reports about their own SLAs. Network operators determine what information and reports are accessible to subscribers, and the subscriber portal can be customized and easily integrated into existing portals.

Overview

Proactive Management

Today, service providers offer more services than ever. At the same time, they are challenged with growing their subscriber base and revenues in difficult economies. Proactively managing services to maximize customer experience, maintain customer loyalty and enhance revenue has become increasingly critical to provider business plans.

To meet these goals, service providers use SLAs to guarantee the level of service quality to customers. Service quality management (SQM) delineates monitoring service quality to ensure service quality conforms to the SLA.

NetBoss Technologies has responded to this challenge by taking service providers beyond just network management to the higher level of Service Assurance. With this rich set of standard and optional service management resources, you can improve service quality and customer experience and enjoy a new level of visibility into your ongoing conformance to service level goals.

Service Level Management (SLM)

NetBoss Technologies Integrated Service Assurance Solution provides a framework for implementing SIA, SLM and SLA reporting. SIA correlates network events to services impacted across your multi-vendor network elements and element managers and – equally important – to the customers who are impacted. SLM enables monitoring and tracking of key SLA metrics including availability, time-to-repair, time-to-provision and QoS. SLM provides customer impact and SIA by integrating internal modules with external OSS components such as trouble ticketing systems, service inventory databases and customer/SLA databases.
Strategic Benefits

• Lowers life cycle costs
• Maximizes existing investment
• Reduces IT and administration costs
• Bundled solution pricing
• Faster delivery of new services
• Faster time to revenue

Operational Benefits

• Rapid Deployment
• Improves network and service reliability
• Redundant, scalable solution
• Multi-vendor, multi-service, multi-protocol solution
• Standards-based open architecture
• Single vendor for faster response, true accountability

Network/Service Management Features

• Service Catalog and Service Repository
• Service Performance

Operations

• End-to-end network and service monitoring
  Centralized GUIs with user-customized graphical and text views
• Command-and-control capabilities for network elements and element managers
• Policy management based on user-defined conditions and actions

Architecture

• Open architecture enables rapid integration with industry-standard or homegrown OSS systems
• Open database structure allows for custom reporting utilities and easily extends provided reports
• Robust tool set extends graphics and monitoring as network expands

Automation

• Notify key on-call personnel or support staff when management policies are violated on any network element
• Repair or further diagnose problems by automatically sending commands after a predetermined event

Security

• Configurable user access levels on a per user/group basis using your existing LDAP or Active Directory infrastructure
• Configurable user access to network views by technology, region or domain

Flexible Development Features

NetBoss XADE™, the NetBoss XT Agent Development Environment, gives you the ability to quickly and easily build new, customized management agents using an intuitive GUI. This capability makes it easy and cost effective for you to support new elements and systems as they become available. It also ensures that you can manage any legacy element not supported by our existing library of NetBoss XT® management agents.

Using NetBoss XADE, you can create full FCAPS-capable management agents and create stunning visual depictions to include physical and logical layouts of network elements or a combination of both. Additional diagrams can be built to provide highly functional command-and-control actions to give, for example, complex configuration control to operators in an easy-to-use integrated interface without having to understand complicated CLI or web-based interfaces to individual network elements.

Contact Information

For more information, please contact your NetBoss Technologies representative, or visit our website at www.netboss-technologies.com.